

REMARKS

Claims 1 through 11 and 15 have been previously canceled. Claims 12 through 14 and 16 through 32 remain in the application. A marked up copy of the amended paragraph of the Specification is attached hereto as Appendix A.

The disclosure was objected to because of an informality.

The Specification has been amended on page 1 to properly identify the patent to which Applicants are claiming the benefit under 35 U.S.C. § 120. It is respectfully submitted that the Specification, as amended, overcomes the objection.

Claim 21 was rejected under 35 U.S.C. § 103 as being unpatentable over Suyama et al. (U.S. Patent No. 5,575,497). Applicants respectfully traverse this rejection.

U.S. Patent No. 5,575,497 to Suyama et al. discloses a method for developing an air bag for a vehicle. An airbag device A_D for a driver's seat S_D and an airbag device A_N for passenger's seat S_N are disposed in a vehicle laterally symmetrically with each other with respect to a center line of a vehicle body and have substantially the same structure. Each of the air bag devices A_D and A_N includes an inflator I mounted in an outer portion of a seat back S_1 of each of the driver's seat S_D and the passenger seat S_N for injecting a high pressure gas, a first air bag B_S which is inflated and developed along an inner surface of a side door D by the high pressure gas from the inflator I , and a second air bag B_F which is integrally coupled to the first air bag B_S and inflated and developed along a rear surface of an instrument panel P . The first and second air bags B_S and B_F are formed separately and united integrally by stitching, and are mounted in their compact folded states in the outer portions of the seat backs S_1 along with the inflators. As can be seen by reference also to FIG. 2, two pressure valves V, V are mounted at a joint between the first and second air bags B_S and B_F united integrally by a stitching 1. Each of the pressure valves

V is a circular opening 2 defined in the first and second air bags B_s and B_f superposed on each other, and a membrane 4 placed to cover the opening 2 and fixed by a stitching 3. When the membrane 4 is in a state shown by a dashed line in FIG. 2, it air-tightly partitions an internal space in the first air bag B_s and an internal space in the second air bag B_f from each other. When the internal pressure in the first air bag B_s is increased to exceed a predetermined value, the membrane 4 is broken into a state shown by a solid line in FIG. 2 to put the internal space in the first air bag B_s into communication with the internal space in the second air bag B_f. In FIGS. 7C to 7G, air bag devices A_D and A_N are mounted in a roof and each of the inflators I, I_s and I_f is mounted in the roof in place of mounting in the seat back S₁. Suyama et al. '497 does not disclose an air bag being mounted solely to a pillar of a vehicle, a trim molding covering the air bag and mounted to the pillar, or an air bag to deploy downward and sideways in front of an occupant seated in the vehicle when inflated.

The United States Court of Appeals for the Federal Circuit (CAFC) has stated in determining the propriety of a rejection under 35 U.S.C. § 103, it is well settled that the obviousness of an invention cannot be established by combining the teachings of the prior art absent some teaching, suggestion or incentive supporting the combination. See In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 U.S.P.Q. 657 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 U.S.P.Q. 929 (Fed. Cir. 1984). The law followed by our court of review and the Board of Patent Appeals and Interferences is that "[a] prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (C.C.P.A. 1976). See also In re Lulu, 747 F.2d 703,

705, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984) (“In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification.”)

In contradistinction, claim 21 claims the present invention as a frontal air bag system for a vehicle including a frontal air bag adapted for mounting solely to a pillar of the vehicle. The frontal air bag is adapted to be inflated and extend downward and sideways in front of an occupant seated in the vehicle.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 21. Specifically, Suyama et al. ‘497 merely discloses a method for developing an air bag for a vehicle in which an air bag is stored in a seat back having a first air bag inflated upwardly along a side door and a second air bag coupled to the first air bag inflated upwardly along a rear surface of an instrument panel. In Suyama et al. ‘497, the second air bag B_F is an extension of the first air bag B_S , which is a side air bag. Although Suyama et al. ‘497 discloses that air bag devices A_D and A_N are mounted in a roof, it only expressly discloses that each of the inflators I_S and I_F is mounted in the roof in place of mounting in the seat back S_t and does not disclose that the first and second air bags B_S and B_F are mounted in the roof. If the first and second air bags B_S and B_F are mounted and deployed from the roof, they are probably located above the window of the vehicle and not along the A-pillar. Contrary to the Examiner’s position, Suyama et al. ‘497 does not disclose inflating and extending an air bag downward and sideways in front of an occupant seated in the vehicle. In Suyama et al. ‘497, the first air bag is developed into a space between the occupant and a side door and the second air bag is developed into a space between the occupant and an instrument panel. Suyama et al. ‘497 does not suggest

how to deploy a frontal air bag from the A-pillar downward and sideways in front of an occupant seated in the vehicle when inflated. The references, if combinable, fail to teach or suggest the combination of a frontal air bag system including a frontal air bag adapted for mounting solely to a pillar of a vehicle to deploy downward and sideways in front of an occupant seated in the vehicle when inflated as claimed by Applicants. The claimed combination is novel and unobvious because the combined references do not teach or suggest how to deploy a frontal air bag from the A-pillar. The present invention is not a rearrangement by routine skill in the art of the prior art. Therefore, it is respectfully submitted that claim 21 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. § 103.

Claims 12 through 14, 16, 17, and 20 through 32 were rejected under 35 U.S.C. § 103 as being unpatentable over Suyama et al. '497 in view of Yamada (U.S. Patent No. 5,884,937). Applicants respectfully traverse this rejection.

U.S. Patent No. 5,884,937 to Yamada discloses an air bag device. An air bag device includes an inflator 16 disposed within an instrument panel 14, which is positioned substantially in front of a driver's seat 12 of a vehicle 10. The inflator 16 is connected to an air bag body 20 via a gas-guiding pipe 18. The air bag body 20 covers substantially the upper half of a front side window 22. A front pillar mounting portion 20A of the air bag body 20 is fixed to a vehicle inner side portion 26A of a front pillar 26 of the vehicle 10 by fixing members 29 such as bolts or the like. A roof side rail mounting portion 20B of the air bag body 20 is fixed to a vehicle inner side portion 28A of a roof side rail 28 by the fixing members 29. The fixing members 29 are inserted into mounting holes 31 which are formed at predetermined intervals in the front pillar mounting portion 20A and the roof side rail mounting portion 20B. The air bag body 20 is accommodated in the housing 30 in a folded state. The housing 30 extends along the

front pillar and the roof side rail 28 and includes a lid 30A and a base 30B. Yamada does not disclose an air bag mounted solely to a pillar of a vehicle to extend downward and sideways in front of an occupant seated in the vehicle when inflated. Yamada also does not disclose a trim molding covering a frontal air bag and mounted to a pillar. Yamada further does not disclose a frontal air bag to deploy downward and sideways in front of an occupant seated in the vehicle when inflated.

In contradistinction, claim 12 claims the present invention as a frontal air bag system for a vehicle including an inflator adapted to be mounted to vehicle structure and a diffuser connected to the inflator and adapted to extend along a pillar of the vehicle. The frontal air bag system also includes a frontal air bag operatively connected to the diffuser and adapted to be mounted solely to the pillar. The frontal air bag system further includes a trim molding covering the frontal air bag and adapted to be mounted to the pillar. The frontal air bag is inflated by the inflator via the diffuser to extend downward and sideways in front of an occupant seated in the vehicle and the trim molding is displaced during deployment of the frontal air bag.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 12. Specifically, Suyama et al. '497 merely discloses a method for developing an air bag for a vehicle in which an air bag is stored in a seat back having a first air bag inflated upwardly along a side door and a second air bag coupled to the first air bag inflated upwardly along a rear surface of an instrument panel. Suyama et al. '497 lacks a trim molding covering an air bag and mounted to a pillar and an air bag to deploy downward and sideways in front of an occupant seated in the vehicle when inflated. In Suyama et al. '497, the second air bag B_F is an extension of the first air bag B_S, which is a side air bag. Contrary to the Examiner's position, Suyama et al. '497 does not disclose inflating and extending an air bag

downward and sideways in front of an occupant seated in the vehicle. In Suyama et al. '497, the first air bag is developed into a space between the occupant and a side door and the second air bag is developed into a space between the occupant and an instrument panel. Suyama et al. '497 does not suggest how to deploy a frontal air bag from the A-pillar downward and sideways in front of an occupant seated in the vehicle when inflated. Yamada '937 merely discloses an air bag device having a front pillar mounting portion of an air bag fixed to a vehicle inner side portion of a front pillar and a roof side rail mounting portion of the air bag body fixed to a vehicle inner side portion of a roof side rail. In Yamada '937, the air bag is a side curtain air bag and Yamada does not teach how to deploy a frontal air bag from the A-pillar. Yamada '937 lacks a trim molding covering a frontal air bag and mounted to a pillar, which is displaced during deployment of the frontal air bag. The references, if combinable, fails to teach or suggest the combination of a frontal air bag system including a frontal air bag operatively connected to an inflator and mounted solely to a pillar of a vehicle, a trim molding covering the frontal air bag and mounted to the pillar, and the frontal air bag inflated by the inflator to extend downward and sideways in front of an occupant seated in the vehicle and the trim molding is displaced during deployment of the frontal air bag as claimed by Applicants. The claimed combination is novel and unobvious because the Yamada '937 reference still does not teach how to deploy a frontal air bag from the A-pillar. Therefore, it is respectfully submitted that claim 12 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. § 103.

As to claim 20, claim 20 claims the present invention claimed as a frontal air bag system for a vehicle including an inflator adapted to be remotely mounted to vehicle structure and a diffuser adapted to be connected to the inflator and adapted to extend along a pillar of the vehicle. The frontal air bag system also includes a frontal air bag mounted solely to the pillar and

having at least one panel and a neck portion connected to the at least one panel. The neck portion is operatively connected to the diffuser. The frontal air bag system further includes a trim molding covering the frontal air bag and adapted to be mounted to the pillar. The frontal air bag is inflated by the inflator via the diffuser to extend downward and sideways in front of an occupant seated in the vehicle and the trim molding is displaced during deployment of the frontal air bag.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 20. Specifically, Suyama et al. '497 merely discloses a method for developing an air bag for a vehicle in which an air bag is stored in a seat back having a first air bag inflated upwardly along a side door and a second air bag coupled to the first air bag inflated upwardly along a rear surface of an instrument panel. Suyama et al. '497 lacks a trim molding covering an air bag and mounted to a pillar and an air bag to deploy downward and sideways in front of an occupant seated in the vehicle when inflated. In Suyama et al. '497, the second air bag B_F is an extension of the first air bag B_S , which is a side air bag. Contrary to the Examiner's position, Suyama et al. '497 does not disclose inflating and extending an air bag downward and sideways in front of an occupant seated in the vehicle. In Suyama et al. '497, the first air bag is developed into a space between the occupant and a side door and the second air bag is developed into a space between the occupant and an instrument panel. Suyama et al. '497 does not suggest how to deploy a frontal air bag from the A-pillar downward and sideways in front of an occupant seated in the vehicle when inflated. Yamada '937 merely discloses an air bag device having a front pillar mounting portion of an air bag fixed to a vehicle inner side portion of a front pillar and a roof side rail mounting portion of the air bag body fixed to a vehicle inner side portion of a roof side rail. In Yamada '937, the air bag is a side curtain air bag

and Yamada does not teach how to deploy a frontal air bag from the A-pillar. Yamada '937 lacks a trim molding covering a frontal air bag and mounted to a pillar, which is displaced during deployment of the frontal air bag. The Yamada '937 reference still does not teach how to deploy a frontal air bag from the A-pillar. The references, if combinable, fail to teach or suggest the combination of a frontal air bag system including a frontal air bag having a neck portion operatively connected to an inflator and mounted solely to a pillar of a vehicle, a trim molding covering the frontal air bag and mounted to the pillar, and wherein the frontal air bag is inflated by the inflator via a diffuser to extend downward and sideways in front of an occupant seated in the vehicle when inflated and the trim molding is displaced during deployment of the frontal air bag as claimed by Applicants. The claimed combination is novel and unobvious because the neck portion of the frontal air bag allows deployment of the main portion of the bag in front of the occupant. Therefore, it is respectfully submitted that claim 20 is allowable over the rejection under 35 U.S.C. § 103.

Claims 18 and 19 were rejected under 35 U.S.C. § 103 as being unpatentable over Suyama et al. '497 as modified by Yamada '937 and further in view of Wipasuramonton et al. (U.S. Patent No. 5,615,909). Applicants respectfully traverse this rejection for the same reasons given above to claim 12.

Obviousness under § 103 is a legal conclusion based on factual evidence (In re Fine, 837 F.2d 1071, 1073, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988), and the subjective opinion of the Examiner as to what is or is not obvious, without evidence in support thereof, does not suffice. Since the Examiner has not provided a sufficient factual basis which is supportive of his/her position (see In re Warner, 379 F.2d 1011, 1017, 154 U.S.P.Q. 173, 178 (C.C.P.A. 1967), cert. denied, 389 U.S. 1057 (1968)), the rejections of claims 12 through 14 and 16 through 32 is

improper. Therefore, it is respectfully submitted that claims 12 through 14 and 16 through 32 are allowable over the rejection under 35 U.S.C. § 103.

Based on the above, it is respectfully submitted that the claims are in a condition for allowance, which allowance is solicited.

Respectfully submitted,

By: 

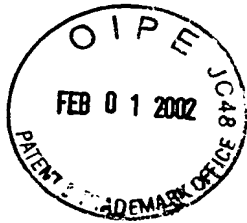
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**APPENDIX A****VERSION OF THE SPECIFICATION WITH MARKINGS TO SHOW THE
CHANGES**

Please amend the pending paragraph beginning on page 1, lines 5 through 7 as follows:

The present application is a continuation of application Serial No. 09/363,062, filed July 29, 1999, which is a continuation-in-part of application Serial No. 09/065,912, filed April 24, 1998, now patent 6,073,960 and entitled "AIR BAG ASSEMBLY".

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